

- 17 -

CLAIMS:

1. An isolated DNA molecule comprising the polynucleotide sequence of SEQ ID NO: 1 and which encodes the promoter region of the myostatin gene, or a fragment thereof, or variant thereof which has been modified by the insertion, substitution or deletion of one or more nucleotides, said fragment and variant of said polynucleotide sequence having substantially equivalent function thereto.
2. An isolated DNA molecule encoding a promoter region of the myostatin gene, said DNA molecule being selected from the group consisting of:
 - a) a DNA molecule that is at least 60% identical to a DNA molecule of SEQ ID NO: 1; and
 - b) a DNA molecule that hybridises under standard conditions to a DNA molecule of a).
3. An isolated DNA molecule as claimed in claim 2, selected from the group consisting of:
 - a) a DNA molecule that is at least 70-95% identical to a DNA molecule of SEQ ID NO: 1; and
 - b) a DNA molecule that hybridises under stringent conditions to a DNA molecule of a).
4. An isolated promoter sequence comprising of at least a portion of the polynucleotide sequence of SEQ ID NO: 1 sufficient to drive expression of a heterologous gene operably linked thereto, or a variant thereof having substantially equivalent function thereto.
5. An isolated promoter sequence as claimed in claim 4, wherein said promoter is tissue specific.
6. An isolated promoter sequence as claimed in claim 5, wherein said promoter is specific for driving expression in muscle cells.

- 18 -

7. An isolated promoter sequence as claimed in any one of claims 4-6 comprising the bovine myostatin promoter or a fragment or variant thereof.
- 5 8. A recombinant cloning vector comprising the DNA molecule as claimed in any one of claims 1-3.
9. A host cell transformed or transfected with the recombinant cloning vector as claimed in claim 8.
- 10 10. An isolated probe comprising at least 12 consecutive nucleotides of the polynucleotide sequence of SEQ ID NO: 1, or the complement thereof.
11. A recombinant DNA construct comprising the promoter sequence of any one of claims 4-7 operably linked to a coding sequence of a gene of interest.
- 15 12. A recombinant DNA construct as claimed in claim 11 wherein the gene of interest is selected from the group consisting of myogenic regulatory factors, myostatin and myostatin receptors, oncogenes, genes that regulate muscle growth and differentiation, muscular dystrophy, and any other gene expressed in muscle.
- 20 13. A vector containing the DNA construct as claimed in claim 11 or 12.
14. A host cell transformed or transfected with the vector as claimed in claim 13.
- 25 15. A method of cloning the DNA molecule as claimed in any one of claims 1-3 comprising the steps:
 - a) inserting the isolated DNA molecule into a suitable replicable cloning vector;
 - 30 b) transforming or transfecting a host cell with said vector *in vitro*;
 - c) culturing host cells; and
 - 35 d) isolating cloned DNA molecule.

- 19 -

16. An isolated DNA molecule as claimed in claim 1 substantially as herein described or exemplified with reference to the accompanying drawings.
- 5 17. An isolated promoter sequence as claimed in claim 4 substantially as herein described or exemplified with reference to the accompanying drawings.
18. A recombinant cloning vector as claimed in claim 8 substantially as herein described or exemplified with reference to the accompanying drawings.
- 10 19. A host cell as claimed in claim 9 substantially as herein described or exemplified with reference to the accompanying drawings.
20. An isolated probe as claimed in claim 10 substantially as herein described or exemplified with reference to the accompanying drawings.
- 15 21. A DNA construct as claimed in claim 11 substantially as herein described or exemplified with reference to the accompanying drawings.
- 20 22. A vector as claimed in claim 13 substantially as herein described or exemplified with reference to the accompanying drawings.
23. A host cell as claimed in claim 14 substantially as herein described or exemplified with reference to the accompanying drawings.
- 25 24. A method as claimed in claim 15 substantially as herein described or exemplified with reference to the accompanying drawings.